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5-1, Okawacho, Kawasaki-ku, Kawasaki-shi, Kanagawa  
210-0858 (JP). KANABARA, Eiichi [JP/JP]; c/o Corporate  
R & D Center, SHOWA DENKO K.K., 5-1, Ogimachi,  
Kawasaki-ku, Kawasaki-shi, Kanagawa 210-0867 (JP).

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(74) Agent: OHIE, Kunihisa; Ohie Patent Office, Horiguchi  
No. 2, Bldg. 7F, 2-6, Nihonbashi-Ningyocho 2-chome,  
Chuo-ku, Tokyo 103-0013 (JP).

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(71) Applicant (*for all designated States except US*): SHOWA  
DENKO K.K. [JP/JP]; 13-9, Shiba Daimon 1-chome, Mi-  
nato-ku, Tokyo 105-8518 (JP).

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(72) Inventors; and

(75) Inventors/Applicants (*for US only*): YANO, Kotaro  
[JP/JP]; c/o Corporate R & D Center, SHOWA DENKO  
K.K., 5-1, Okawacho, Kawasaki-ku, Kawasaki-shi,  
Kanagawa 210-0858 (JP). TOKI, Masaharu [JP/JP];  
c/o Showa Denko K.K., 13-9, Shiba Daimon 1-chome,  
Minato-ku, Tokyo 105-8518 (JP). INOUE, Hitoshi  
[JP/JP]; c/o Corporate R & D Center, SHOWA DENKO  
K.K., 5-1, Okawacho, Kawasaki-ku, Kawasaki-shi, Kana-  
gawa 210-0858 (JP). YOSHIDA, Tomoaki [JP/JP];  
c/o Corporate R & D Center, SHOWA DENKO K.K.,

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(54) Title: VAPOR GROWN CARBON FIBER, AND PRODUCTION METHOD AND USE THEREOF

(57) Abstract: A vapor grown carbon fiber, each fiber filament of the carbon fiber having a branching degree of at least 0.15 occur-  
rences/ $\mu\text{m}$  and a bulk density of 0.025 g/cm<sup>3</sup> or less and a producing method of the carbon fiber by spraying a raw material solution  
containing a carbon source and a transition metallic compound into a reaction zone and subjecting the raw material solution to ther-  
mal decomposition, which is characterized in (1) spraying the raw material solution at a spray angle of 3° to 30° and (2) feeding a  
carrier gas through at least one site other than an inlet through which the raw material solution is sprayed, and a composite material  
comprising the carbon fiber.